

WHAT IS CLAIMED IS:

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5           1. A testing method which is used to  
perform a test of an information notification  
service function of a switching apparatus which can  
provide the information notification service in  
compliance with a predetermined information  
notification service specification, said testing  
method comprising a step of performing an  
information notification service function between a  
testing apparatus which can emulate a plurality of  
10          types of information reception terminals for  
different information notification service  
specifications and the switching apparatus which can  
connect a subscriber side two-wire in a subscriber  
line circuit in said switching apparatus to said  
15          testing apparatus.

20           2. A testing apparatus which is used to  
perform a test of an information notification  
service function of a switching apparatus which can  
provide the information notification service in  
compliance with a predetermined information  
notification service specification, said testing  
apparatus comprising:  
25            a hardware block which can send and  
receive controls signals and information data using  
a voice band signal, which are in compliance with  
30            different information notification service  
specifications, by means of connecting said hardware  
block to a subscriber side two-wire in a subscriber

line circuit in said switching apparatus; and  
a control block which controls said  
hardware block using a software can change a  
controlling operation by means of replacing said  
5 software according to the information notification  
service specification to be tested.

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3. The testing apparatus as claimed in  
claim 2, wherein said hardware block is constructed  
by a programmable device, and said control block can  
change said controlling operation by means of  
15 downloading said software.

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4. The testing apparatus as claimed in  
claim 2, wherein said control block change said  
controlling operation according to an information on  
a station data information in said switching  
apparatus or a test-mode instruction sent from said  
25 switching apparatus.

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5. A testing method which is used to  
perform a test of an information notification  
service function of a switching apparatus which can  
provide the information notification service in  
compliance with a predetermined information  
35 notification service specification, using a  
termination resistor with a high resistance  
connected to a test line in a subscriber line

~~circuit, a testing apparatus connected to a call line of a switching apparatus to send and receive test data using a voice band signal and said switching apparatus, said call line of which is connected to said testing apparatus, said method comprising steps of:~~

sending an analog signal corresponding to  
test data from said testing apparatus to said  
termination resistor through said call line of said  
switching apparatus;

reflecting said analog signal using said  
resistor;

receiving a reflected analog signal by  
said termination resistor by means of said testing  
apparatus through said call line of said switching  
apparatus; and

analyzing received data corresponding to  
said reflected analog signal.

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6. The testing method as claimed in claim  
5, wherein said switching apparatus can connect said  
test line to said testing apparatus, and said  
termination resistor is provided in said testing  
apparatus.

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7. The testing method as claimed in claim 5, wherein said testing method further comprising a step of encoding said test data using an FSK signal or a DTMF signal.

8. A testing method which is used to perform a test of an information notification service function of a switching apparatus which can provide the information notification service in compliance with a predetermined information notification service specification, said method comprising steps of;

10 translating a dialed number from a subscriber by means of said switching apparatus when ringed;

15 capturing said dialed number when a translated number by said translating step is equal to a predetermined number; and,

20 notifying said dialed number to said subscriber.

9. A testing method which is used to perform a test of an information notification service function of a switching apparatus which can provide the information notification service in compliance with a predetermined information notification service specification, using a switching apparatus which can connect a test line from a subscriber line circuit to a reception terminal for a test, said method comprising steps of:

25 calling from one subscriber terminal to another subscriber terminal connected to said subscriber line circuit to be tested; and,

30 displaying an information on said subscriber terminal that called in said calling step on said reception terminal for said test.

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5           10. The testing method as claimed in  
claim 9, further comprising the steps of;  
translating a dialed number from said  
subscriber by means of said switching apparatus when  
ringed;

10           capturing said dialed number when a  
translated number by said translating step is equal  
to a predetermined number; and,  
notifying said dialed number to said  
subscriber.

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20           11. An FSK signal demodulation method  
comprising:  
a zero crossing point calculation step;  
a zero crossing point interval calculation  
step;  
a mark/space transition point calculation  
step;  
a bit point calculation step which decides  
a bit point based on a mark/space transition point  
calculated by said mark/space transition point  
calculation step; and  
30           a bit decision step which decides a bit  
value based on said bit point calculated by said bit  
point calculation step.

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12. The FSK signal demodulation method as

claimed in claim 11, wherein said bit point calculation step decides said bit point value during an interval excluding predetermined interval between a predetermined point before said mark/space transition point and another predetermined point after said mark/space transition point.

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13. An FSK signal demodulator comprising:  
a zero crossing point calculation unit;  
a zero crossing point interval calculation  
unit;  
a mark/space transition point calculation  
unit;  
a bit point calculation unit which decides  
a bit point based on a mark/space transition point  
calculated by said mark/space transition point  
calculation unit; and  
a bit decision unit which decides a bit  
value based on said bit point calculated by said bit  
point calculation step.

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14. The FSK signal demodulator as claimed  
in claim 13, wherein said bit point calculation unit  
decides said bit point value during an interval  
excluding predetermined interval between a  
predetermined point before said mark/space  
transition point and another predetermined point  
after said mark/space transition point.

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15. The FSK signal demodulator as claimed  
in claim 13, further comprising:  
an A/D converter which converts an input  
5 FSK signal to a digital FSK signal when said input  
FSK signal is an analog FSK signal; and  
a switch which selects either an output of  
said A/D converter or an input digital FSK signal,  
and supplies a selected digital FSK signal to said  
10 zero crossing point calculation unit.

15 16. The FSK signal demodulator as claimed  
in claim 14, further comprising:  
an A/D converter which converts an input  
analog FSK signal to a digital FSK signal when said  
input FSK signal is an analog FSK signal; and  
20 a switch which selects either an output of  
said A/D converter or an input digital FSK signal,  
and supplies a selected digital FSK signal to said  
zero crossing point calculation step.

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17. A testing apparatus which is used to  
perform a test of an information notification  
30 service function of a switching apparatus which can  
provide the information notification service in  
compliance with a predetermined information  
notification service specification, said testing  
apparatus comprising:

35 an FSK signal demodulator which comprises;  
a zero crossing point calculation unit;  
a zero crossing point interval calculation

- unit;  
a mark/space transition point calculation  
unit;  
a bit point calculation unit which decides  
5 a bit point based on a mark/space transition point  
calculated by said mark/space transition point  
calculation unit; and  
a bit decision unit which decides a bit value based  
on said bit point calculated by said bit point  
10 calculation unit.
- 15 18. The testing apparatus, as claimed in  
claim 17, wherein said bit point calculation unit  
decides said bit point value during an interval  
excluding predetermined interval between a  
predetermined point before said mark/space  
20 transition point and another predetermined point  
after said mark/space transition point.
- 25 19. The testing apparatus as claimed in  
claim 17, further comprising:  
an A/D converter which converts an input  
FSK signal to a digital FSK signal when said input  
30 FSK signal is an analog FSK signal; and  
a switch which selects either an output of  
said A/D converter or an input digital FSK signal,  
and supplies a selected digital FSK signal to said  
zero crossing point calculation unit.
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